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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,888	11/14/2007	Seiji Shinohara	920_094	6933

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EXAMINER	
FERGUSON, LAWRENCE D	
ART UNIT	PAPER NUMBER
1783	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,888	SHINOHARA ET AL.	
	Examiner	Art Unit	
	Lawrence D. Ferguson	1783	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 November 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/7/06;12/19/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The references disclosed within the information disclosure statement (IDS) submitted on September 7, 2006 and December 19, 2006, has been considered and initialed by the Examiner.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

3. Claims 5 and 16-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, the phrase, "the organometallic compound of zinc" is indefinite. There is insufficient antecedent basis for this limitation in the claim.

In claim 7, the phrase, "having reduced photocatalytic activity" is indefinite. Because claim 1, which claim 7 depends discloses eliminated or reduced photocatalytic activity, the Examiner has chosen eliminated photocatalytic activity to examine.

In claims 16-20, the phrase, "the haze value of the coating film...is not different from the haze value of the base material per se, or is different by not more than 1% from the haze value of the base material, per se" is vague and indefinite. It is unclear whether the haze value of the coating film is not different or is different by not more than 1% from the haze value of the base material.

Obvious Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-22 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 6,949,284.

Although the conflicting claims are not identical, they are not patentably distinct from each other because they both include a coating composition comprising titanium dioxide, a binder component, a dispersant and an organic solvent. Although U.S. Patent No. 6,949,284, does not explicitly disclose the titanium particles are obtained by surface treating the particles doped with cobalt which is capable of capturing free electrons and/or holes, with a chelate compound capable of capturing free electrons or holes, the phrase, obtained by surface treating the particles doped with cobalt introduces a process limitation to the product claim. For purposes of examination, product-by-process claims are not limited to the manipulation of the recited steps, only the structure implied by the steps. See MPEP 2113. In the present case, the recited steps imply a structure (coating) having titanium dioxide, a binder component, a dispersant and an organic solvent. The reference suggests such a product because U.S. Patent No. 6,949,284, discloses a coating composition comprising titanium dioxide, a binder component, a dispersant and an organic solvent. Additionally, the phrase, capable of capturing free electrons and/or holes, with a chelate compound capable of capturing free electrons or holes constitutes a 'capable of' limitation and that such a recitation that an element is 'capable of' performing a function is not a positive limitation but only requires the ability to so perform.

Claim Rejections – 35 USC § 102(b)

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4, 6-12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Yasuda et al. (U.S. 6,210,858).

Yasuda discloses a coating comprised of inorganic fine particles such as titanium dioxide, (column 6, lines 47-67), a binder with an anionic dispersing agent, (column 7, lines 38-53) and an organic solvent, such as methanol or ethanol (column 7, lines 9-26) as disclosed in the instant specification at paragraph 0075. In claim 1, the phrase, eliminated photocatalyic activity is interpreted to mean no photocatalyic activity. Because Yasuda is silent of photocatalyic activity, the limitation is considered to be met by Yasuda. A surface treatment using inorganic compounds, organic compounds, or both can be used to coat the surface of the particles, (column 6, lines 59-67). In claim 1, the phrase, obtained by surface treating titanium dioxide fine particles doped with cobalt introduces a process limitation to the product claim. For purposes of examination, product-by-process claims are not limited to the manipulation of the recited steps, only the structure implied by the steps. See MPEP 2113. In the present case, the recited steps imply a structure having titanium dioxide fine particles, a binder, dispersant and

organic solvent. The reference suggests such a product because Yasuda discloses a coating comprised of inorganic fine particles such as titanium dioxide, (column 6, lines 47-67), a binder with an anionic dispersing agent, (column 7, lines 38-53) and an organic solvent, such as methanol or ethanol (column 7, lines 9-26). Additionally, the patentability of a product does not depend on its method of production. In claim 1, the phrase, "capable of capturing free electrons and/or holes, with a zinc chelate compound capable of capturing free elections and/or holes constitutes a 'capable of" limitation and that such a recitation that an element is 'capable of' performing a function is not a positive limitation but only requires the ability to so perform, as in claim 1.

Concerning claim 2, Yasuda discloses a coating comprised of inorganic fine particles such as titanium dioxide, (column 6, lines 47-67), a binder with an anionic dispersing agent, (column 7, lines 38-53) and an organic solvent, such as methanol or ethanol (column 7, lines 9-26) as disclosed in the instant specification at paragraph 0075. In claim 1, the phrase, eliminated photocatalyic activity is interpreted to mean no photocatalyic activity. Because Yasuda is silent of photocatalyic activity, the limitation is considered to be met by Yasuda. A surface treatment using inorganic compounds, organic compounds, or both can be used to coat the surface of the particles, (column 6, lines 59-67). A surface treatment using inorganic compounds, organic compounds, or both can be used to coat the surface of the particles. The binder is a crosslinked polymer incorporating a phosphoric acid group or sulfonic acid group as an anionic group, wherein the anionic groups maintains the dispersion of the inorganic fine particles. In claim 2, the phrase, obtained by surface treating titanium dioxide fine

particles doped with cobalt introduces a process limitation to the product claim. For purposes of examination, product-by-process claims are not limited to the manipulation of the recited steps, only the structure implied by the steps. See MPEP 2113. In the present case, the recited steps imply a structure having titanium dioxide fine particles, a binder, dispersant and organic solvent. The reference suggests such a product because Yasuda discloses a coating comprised of inorganic fine particles such as titanium dioxide, (column 6, lines 47-67), a binder with an anionic dispersing agent, (column 7, lines 38-53) and an organic solvent, such as methanol or ethanol (column 7, lines 9-26). Additionally, the patentability of a product does not depend on its method of production. In claim 2, the phrase, "capable of capturing free electrons and/or holes, with a zinc chelate compound capable of capturing free elections and/or holes constitutes a 'capable of" limitation and that such a recitation that an element is 'capable of' performing a function is not a positive limitation but only requires the ability to so perform.

Concerning claims 3-4, Yasuda discloses a coating comprised of inorganic fine particles such as titanium dioxide, (column 6, lines 47-67), a binder with an anionic dispersing agent, (column 7, lines 38-53) and an organic solvent, such as methanol or ethanol (column 7, lines 9-26) as disclosed in the instant specification at paragraph 0075. In claims 3-4, the phrase, eliminated photocatalyic activity is interpreted to mean no photocatalyic activity. Because Yasuda is silent of photocatalyic activity, the limitation is considered to be met by Yasuda. A surface treatment using inorganic compounds, organic compounds, or both can be used to coat the surface of the

particles, (column 6, lines 59-67). In claims 3-4, the phrase, obtained by coating titanium dioxide fine particles doped with cobalt introduces a process limitation to the product claim. For purposes of examination, product-by-process claims are not limited to the manipulation of the recited steps, only the structure implied by the steps. See MPEP 2113. In the present case, the recited steps imply a structure having titanium dioxide fine particles, a binder, dispersant and organic solvent. The reference suggests such a product because Yasuda discloses a coating comprised of inorganic fine particles such as titanium dioxide, (column 6, lines 47-67), a binder with an anionic dispersing agent, (column 7, lines 38-53) and an organic solvent, such as methanol or ethanol (column 7, lines 9-26). Additionally, the patentability of a product does not depend on its method of production. In claim 3, the phrase, "capable of capturing free electrons and/or holes, with an inorganic compound capable of reducing or eliminating photocatalytic activity and further surface treating the coated titanium dioxide fine particles with a zinc chelate compound capable of capturing free electrons and/or holes constitutes a 'capable of" limitation and that such a recitation that an element is 'capable of' performing a function is not a positive limitation but only requires the ability to so perform.

Concerning claim 6, the inorganic fine particles are made of metal oxides such as tin oxide (column 6, lines 47-55).

Concerning claim 7, the inorganic fine particles are made of metal oxides such as titanium dioxide, having a particle size (diameter) ranging from 1-150 nm (0.001-0.2 μm) (column 6, lines 35-38). The phrase, "having reduced photocatalytic activity" has not

been considered. Because claim 1, which claim 7 depends discloses eliminated or reduced photocatalytic activity, the Examiner has chosen "eliminated photocatalytic activity" to examine.

Concerning claims 8 and 10, the anionic groups maintains the dispersion of the inorganic fine particles. The main chain of the polymer can include polyolefin, polyether, polyurea, polyurethane, polyester, polyamine, polyamide, and melamine resin with the preferred being polyolefin or polyether, (column 7, lines 38-53). The anionic group is connected to the main chain either directly or as a side chine via a linking group, (column 8, lines 16-19). In addition, when the repeating unit has an anionic group and a crosslinked structure, the anionic group can include a carboxylic group, (column 9, lines 32-40; and column 11, lines 15-20).

Concerning claim 9, a surface treatment using inorganic compounds, organic compounds, or both can be used to coat the surface of the particles. Alumina, silica, zirconia, and iron oxide can be used as well as silane and titanate coupling agents, (column 6, lines 47-67).

Concerning claim 11, because Yasuda discloses a similar structure with a similar function including the binder component, it is inherent for the binder component to be ionizing radiation curable. The claiming of a new use, new function or unknown property which is inherently present in the prior art does not necessarily make the claim patentable. In re Best, 562 F.2d 1252, 1254, 195 USPQ 430, 433 (CCPA 1977). Mere recitation of a newly-discovered function or property, inherently possessed by things in prior art, does not cause claim drawn to those things to distinguish over prior art.

Concerning claim 12, Yasuda discloses a ketone solvent (column 7, lines 9-27).

Concerning claim 14, Yasuda discloses examples of polymerization initiators are 1-hydroxycyclohexylphenyl ketone, (columns 13, lines 32-54)

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Ferguson whose telephone number is 571-272-1522. The examiner can normally be reached on Monday through Friday 9:00 AM – 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample, can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov.

Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Lawrence Ferguson/
Patent Examiner, Art Unit 1783

/Mark Ruthkosky/
Supervisory Patent Examiner, Art Unit 1785